

ABSTRACT

The invention provides a magnetic core material which has high magnetic permeability in a specific direction, and  
5 good dimensional accuracy, and is hard to be damaged, particularly a high-frequency magnetic core material which is suitable to be used for an antenna of an RFID tag or reader/writer which operates in a range of a VHF band to a UHF band. A soft magnetic metal powder having a  
10 predetermined particle size (about 1  $\mu\text{m}$ ) or less is kneaded with plastic or rubber in a volume ratio of about 10% to 50%, and preferably, in a content of 10% to 40%, and the kneaded composite is subjected to working which extends a composite material in one direction, such as extruding, rolling,  
15 rolling after extruding, drawing after extruding, or rolling after injection. As a result, the magnetic permeability can be enhanced, the direction dependency can be given to magnetic permeability, the dimensional accuracy can be improved, and the magnetic core material can be made hard to  
20 be damaged. Further, a high-performance antenna with little leakage of magnetic flux can be manufactured by forming an antenna pattern in one surface of this magnetic core material and disposing a conductive material on the other surface thereof to form an antenna of an RFID tag or  
25 reader/writer.